

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

DRAFT PERMIT NO. F-06-054
ARCH ENVIRONMENTAL EQUIPMENT, INC.
5929 BENTON ROAD, PADUCAH KENTUCKY
OCTOBER 26, 2006
FROUGH SHERWANI, REVIEWER
PLANT I.D. # 021-145-00088
AI # 39228

SOURCE DESCRIPTION:

The Arch Environmental Equipment, Inc. USA, Inc. is located in Paducah, Kentucky. The facility manufactures conveyor components and dust control equipment.

On July 10, 2006 the source applied to the Division for the renewal of their conditional major permit F-01-039.

Emission Point: 01 Spray Booth

MP1: DeVilbiss model 2000 spray gun

This point is for spraying operation. The "PTE" is calculated based on 6.57 gallons per hour. There are four spray guns in the booth, but only one spray gun is used at one time. The transfer efficiency of the system is estimated to be 60%. The Booth has fabric filter to control particulate matter. The estimated control efficiency of the filter is 90%. The "PTE" is calculated based on 8760 hours per year.

MP2: Clean-Up

This point is for clean-Up. The "PTE" calculated is based on 0.175 gallon per hour. The "PTE" is calculated based on 8760 hrs per year.

Emission Point: 02 Urethane Shop

MP1: Castable Urethane Molding

This point is for Urethane application. Vibrathane 8020 or equivalent and Vibrathane 8585 or equivalent is used for this operation. The "PTE" is calculated based on 35.30 lbs. per hour for Vibrathane 8020 or equivalent and 2.67 lbs. per hour for Vibrathane 8585 or equivalent. The "PTE" is calculated based on 8760 hrs per year.

MP2: Catalyst

This point is for catalyst use. 1,4 Butanediol or equivalent is used for this operation. The "PTE" is calculated based on 2.89 lbs. per hour. The "PTE" is calculated based on 8760 hrs per year.

Emission Point: 03 Adhesive Application

MP1 Elastomer Application

This point is for adhesive application. Elastomer or equivalent is used for this operation. Brush is used for coating. The “PTE” is calculated based on 0.54 lb per hour. Adhesive is mixed with thinner. The adhesive is 26% of thinner. The “PTE” is calculated based on 8760 hrs per year.

Emission Point: 04 Curing Oven # 1

This point is for curing oven. Natural gas is used as fuel. The rated capacity of the oven is 1.5 mmBTU per hr each. This is an insignificant activity.

Emission Point: 05 Curing Oven # 2

This point is for curing oven. Natural gas is used as fuel. The rated capacity of the oven is 0.15 mmBTU per hr each. This is an insignificant activity.

Emission Point: 06 Welding Area # 1

This point is for MIG welding. The consumption of electrode (ER70S-6 or equivalent) is 2.05 lbs. per hr per machine. The welding operation has an electrostatic precipitator to control particulate matter with the estimated control efficiency of 90 %. This is an insignificant activity.

Emission Point: 07 Welding Area # 2

This point is for MIG welding. The consumption of electrode (ER70S-6 or equivalent) is 2.05 lbs. per hr per machine. The welding operation has an electrostatic precipitator to control particulate matter with the estimated control efficiency of 90 %. This is an insignificant activity.

Emission Point: 08 Welding Area # 3

This point is for MIG welding. The consumption of electrode (ER70S-6 or equivalent) is 2.05 lbs. per hr per machine. The welding operation has an electrostatic precipitator to control particulate matter with the estimated control efficiency of 90 %. This is an insignificant activity.

Emission Point: 09 Welding Area # 4

This point is for MIG welding. The consumption of electrode (ER70S-6 or equivalent) is 2.05 lbs. per hr per machine. The welding operation has an electrostatic precipitator to control particulate matter with the estimated control efficiency of 90 %. This is an insignificant activity.

Emission Point:**10****Welding Area # 5**

This point is for MIG welding. The consumption of electrode (ER70S-6 or equivalent) is 2.05 lbs. per hr per machine. The welding operation has an electrostatic precipitator to control particulate matter with the estimated control efficiency of 90 %. This is an insignificant activity.

Emission Point:**11****Wood Working**

This point is for miscellaneous wood working operations. The consumption of wood for this process is 34.5 lbs. per hour. The woodworking process has vacuum collection unit. The estimated efficiency of the control unit is 80%. This is an insignificant activity.

COMMENTS:**Type of control and efficiency:**

Emission point 01 has fabric filter to control particulate matter. The estimated control efficiency of the filter is 90 %. Emission point 06 to 10 has electrostatic precipitator to control particulate matter. The estimated control efficiency of the ESP is 90%. Emission point 11 has vacuum collection unit to control particulate matter. The estimated control efficiency of the unit is 80 %.

Emission factors and their source:

AP -42 5th edition, and mass balance are used for the emission factors for PM, VOC and HAPS. MDI "PTE" calculations are done according to the Alliance for the Polyurethane Industry's MDI Emission Estimator.

Applicable regulation:

- a. **401 KAR 52:030.** Federally-enforceable permits for non major sources.
- b. **401 KAR 59:010,** New Process Operations (applicable to each affected facility associated with a process operation commenced on or after July 2, 1975)

EMISSION AND OPERATING CAPS DESCRIPTION:

1. The source has accepted a facility-wide cap on annual VOC emissions of no more than 90 tons per rolling 12-month period. Compliance with this allowable will be demonstrated by record keeping and emissions estimating methodology specified in the terms and conditions of the permit.
2. The source has accepted a facility-wide cap on annual individual HAP emission of no more than 9.0 tons per rolling 12-month period. Compliance with this allowable will be demonstrated by record keeping and emissions estimating methodology specified in the terms and conditions of the permit.
3. The source has accepted a facility-wide cap on annual combined HAPS emissions of no more

than 22.5 tons per rolling 12-month period. Compliance with this allowable will be demonstrated by record keeping and emissions estimating methodology specified in the terms and conditions of the permit.

4. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility (s) which is equal to or greater than twenty (20) percent opacity.
5. For emission from a control device or stack, no person shall cause, suffer, allow or permit the emission in to the open air of particulate matter (PM) from any affected facility which in excess of 2.34 lb/hr.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.